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EXAMINER	
LU, KUEN S	

ART UNIT	PAPER NUMBER
2167	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,613	SAWADSKY ET AL.	
	Examiner	Art Unit	
	Kuen S Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Pri rity under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Respons to Am ndm nts

1. The Action is responsive to the Applicant's Amendments, filed on October 15, 2004.

2. The Applicant's amendment made to the claim 23 for correcting informalities is noted and accepted.

3. As for the Applicant's Remarks on claim rejections, filed on October 15, 2004, has been fully considered by the Examiner, please see discussion in the section Response to Arguments, following the Office Action for Final Rejection. Please note the Examiner maintains the same position, as set forth in the Office Action for Non-Final Rejection, dated July 9, 2004, in this Office Action for Final Rejection.

4. As for the Applicant's newly added apparatus claims 25-46, filed on October 15, 2004, have been addressed among the original method and system claims accordingly. Furthermore, the claims 13 and 37 rejection has been modified, within the scope of originally cited material, for addressing the newly introduced issue.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 13, 18, 23, 25, 37 and 42 are rejected under U.S.C. 102(e) as anticipated by Kodama (U.S. Patent 6,374,262).

As per claims 1, 13, 25 and 37, Kodama teaches the following:

"peer-to-peer database synchronization between a first computer and a second computer" at Fig. 1 and col. 3, lines 59-67 where databases on a master and a replica machines synchronize each other;

"a) extracting changes from a source database of the first computer to generate an extracted database" at col. 4, lines 11-16 where the replica machine extracts changes to create replica differentials;

"b) transferring the extracted database from the first computer to the second computer" at col. 4, lines 11-16 where the replica machine transfers extracted differentials to the master machine; and

"c) replicating the source database on a target database of the second computer from the extracted database in order to synchronize the target database with the source database" and the synchronized database, the "said database" of the first computer being a copy of said database of the second computer as a result of replicating at col. 4, lines 23-27 where the replica differentials are reflected to the master machine database, and synchronized target database is a duplicate of the source database.

As per claims 18, 23 and 42, Kodama teaches the following:

"a plurality of computers in a peer-to-peer network, wherein one of the computers is designated an initiating computer, each computer having a database and software" at Fig. 1, elements 1, 4-4n and col. 3, line 59 – col. 4, line 52 where the master computer is the initiating computer and replica machines 4-4n are a plurality of computers on a peer-to-peer network;

"a) extract changes from a source database of each computer of the users" at at col. 4, lines 11-16 where each of the replica machines extracts changes to create replica differentials;

"b) send changes from each of the user's computers in the peer-to-peer network to the initiating computer" at col. 4, lines 11-16 where each of the the replica machines transfers extracted differentials to the master machine;

"c) replicate the changes from each of the databases of the user's computers onto the database of the initiating computer" at col. 4, lines 23-27 where the replica differentials from each of the replica machines are reflected to the master machine database;

"d) extract all of the changes from the database of the initiating computer" at Fig. 1, element 2 and col. 4, lines 15-23 where master database differentials since last synchronization is extracted;

"e) send the changes to each of the user's computers in the peer-to-peer network" at Fig. 1, element 2 and col. 4, lines 28-38 where master database and replica databases differentials are sent to replica machines; and

"f) replicate the changes on a respective database of each of the users in order to

synchronize all databases" at Fig. 1, element 2 and col. 4, lines 31-44 where master and replica differentials are reflected to the replica databases.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2-3, 5, 7-12, 14-17, 19-22, 24, 26-27, 29, 31-36, 38-41 and 43-46 are rejected are rejected under U.S.C. 103(a) as being unpatentable over Kodama (U.S. Patent 6,374,262), as applied to claims 1, 13, 18, 23, 25, 37 and 42 and further in view of Nixon et al. (U.S. Patent 6,704,737, hereafter "Nixon").

As per claims 2, 14, 26 and 38, Kodama teaches extracting changes from a source database (col. 4, lines 11-16) where the replica machine extracts changes to create replica differentials as previously described for rejecting claims 1 and 13.

Kodama does not specifically teach "compressing the extracted database to generate a compressed extracted database".

However, Nixon teaches zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner at col. 13, lines 41-55.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Nixon's reference with Kodama's by compressing (zipping) the extracted database before transferring the zipped file(s) to another computer because by doing so the bandwidth needed for file transfer would be much less. This practice would have improved the network and system performance for Kodama's system because transferring files on the network is a common and frequent routine.

Nixon further teaches "decompressing the compressed extracted database on the second computer to generate a decompressed extracted database" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner.

As per claims 3 and 27, Nixon further teaches "expunging the extracted database from the first computer after the compressed extracted database is generated" by zipping the export file at col. 13, lines 41-55 where zipping process will erase the original unzipped file after the file being successfully zipped.

As per claims 5 and 29, Nixon further teaches "expunging the extracted database on the second computer after the decompressed database has been generated" at col. 13, lines 41-55 where unzipping process will erase the original zipped file after the file being successfully unzipped.

As per claims 7, 15, 31 and 39, Nixon further teaches "the compressed extracted database is transferred over a peer-to-peer network between the first computer and the second computer" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. .

As per claims 8, 16, 32 and 40, Nixon further teaches "the peer-to-peer network is a wireless network" at col. 3, lines 20-25 by using wireless links or dedicated Ethernet bus to communicate sites.

As per claims 9, 17, 33 and 41, Nixon further teaches "the peer-to-peer network is a wired network" at col. 3, lines 20-25 by using wireless links or dedicated Ethernet bus to communicate sites.

As per claims 10 and 34, Nixon further teaches "the compressed extracted database is decompressed in a manner complementary to the compression of step (1)" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner.

As per claims 11 and 35, Nixon further teaches "d) extracting changes from the target database of the target computer to generate an extracted target database;

e) transferring the extracted target database from the second computer to the first computer; and f) replicating the target database on the source database of the first computer from the extracted target database in order to synchronize the source database with the target database" at col. 13, lines 41-55 by synchronizing the entire database by exporting the reserved items from the database, zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner by including every item from database for synchronizing the whole database.

As per claims 12 and 36, Nixon further teaches "1) compressing the extracted target database to generate a compressed extracted target database subsequent to step (d); and 2) decompressing the compressed extracted target database on the first computer to generate a decompressed target database subsequent to step (e)" at col. 13, lines 41-55 by synchronizing the entire database by exporting the reserved items from the database, zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner by including every item from database for synchronizing the whole database.

As per claim 19 and 43, Nixon further teaches "compressing the changes prior to

sending them and decompressing the changes after being received" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner.

As per claims 20 and 44, Nixon further teaches the following:

"step (a) further comprises creating a transferred database from the changes to each respective database of the users" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner where the file transferred is the transferred database;

"step (b) further comprises compressing and sending the transferred database as the changes to the initiating user" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner where the file transferred is the transferred database; and

"step (c) further comprises decompressing the transferred database in order to replicate the changes to the database of the initiating user" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the

master database in any known or desired manner where the file transferred is the transferred database.

As per claims 21 and 45, Nixon further teaches the following:

"step (d) further comprises creating a transferred database from the changes to the database of the initiating user and then compressing and sending the transferred database as the changes to each of the databases of each of the users; and

step (e) further comprises decompressing the transferred database by each of the users in order to replicate the changes of all the users on each of the user's databases" at col. 13, lines 41-55 by zipping the export file and transferring the zipped export file to the node with the master database. At the master database, an application may unzip the export file, import this file into the master database in any known or desired manner where the file expored is the transferred database at the master (initiating) machine and the unzipped transferred file at the replica machines is the transferred database at the replica machines.

As per claims 22, 24 and 46, Nixon further teaches "the changes are transferred in parallel to each of the users" at Fig. 2, col. 4, lines 53-65 and col.2, lines 48-51 where replicas machines are connected to the master machine for exchanging data when the replica machines are connected at an arbitrary time.

9. Claims 4, 6, 28 and 30 are rejected are rejected under U.S.C. 103(a) as being unpatentable over Kodama (U.S. Patent 6,374,262) in view of Nixon et al. (U.S. Patent 6,704,737, hereafter "Nixon"), as applied to claims 2 and 26, and further in view of Lisiecki et al. (U.S. Publication 2002/0147774, hereafter "Lisiecki").

As per claims 4 and 28, the combined Nixon-Kodama teaches compressing and decompressing extracted database differentials as previously described in claim 2 rejection.

The combined reference does not teach expunging the compressed extracted database from the first computer after the transferring from the first computer to the second computer.

However, Lisiecki teaches acknowledgement of receiving of log entries at the remote site, and purging the entries by 'garbage collected' at col. 10, [0106], lines 12-15.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Lisiecki's reference with Nixon and Kodama's by combining the following steps as an integrated process of database replication or synchronization: extracting database into file, zipping the file (and optionally removing its original unzipped file automatically), transferring file to remote site, unzipping the file (and optionally removing the original zipped file automatically) at the remote site, importing the file into remote database, and purging the zipped or unzipped file at the remote or current site should it continues to exits. This practice would have improved the network and system performance for Kodama's because a

much narrower network bandwidth is needed for transferring file and the use of storage is efficient since it is constantly purged.

As per claims 6 and 30, Lisiecki further teaches "expunging the decompressed database on the second computer after it has been replicated on the target database" at col. 10, [0106], lines 12-15 by the acknowledgement of receiving of log entries at the remote site, and purging the entries by 'garbage collected'.

Response to Arguments

10. The Applicants' arguments filed on October 15, 2004 have been fully considered but they are not persuasive, for the Examiner's response, please see discussion below.

At Pages 13-16, concerning claims 1, 13, 18 and 23, the Applicant argued that the Kodama reference (U.S. Patent 6,374,262) does not teach the following:

a). peer to peer database synchronization;

b). replica machines disconnected from a master machine during database synchronization;

c). from the extracted databse, synchronizing target database with source database; and

d). replicating source database because only part of database is replicated.

As to the above arguments, the Examiner respectfully disagrees. First of all, the reference(s) cited by the Examiner teaches every limitation of the claims, as previously

set forth in the non-Final Rejection Office Action, dated July 9, 2004 and further repeated in this Office Action for Final Rejection.

As to the above argument a), the Examiner respectfully disagrees. As depicted in Figure 1, all the replica machines are considered equal in responsibility and synchronize data with a master machine. The data synchronization of replica machines via master machine is a peer-to-peer database synchronization.

As to the above argument b), the Examiner respectfully disagrees. The master and replica machines are connected via network. The replica machines get data updated usually when being disconnect from the master machine and connect to the master for data synchronization. This operation mode does not deny the fact that the architecture performs data synchronization among machines and teaches every limitation of the claims.

As to the above argument c), the Examiner respectfully disagrees. As replica machines utilize the master as a central system for data synchronization, the architecture replicates target database with source database among the machines. Also please note the Examiner interpreted the extracted database differentials as the extracted database.

As to the above argument d), the Examiner respectfully disagrees. Please note database replication may or may not replicate the **whol** database. The portion of database needs to be synchronized, which may or may not be the whole database, is created as a replication group. The replication group is considered the "replicated database". Strictly speaking, some portion of database is normally not replicated, for example, dictionary. For details, please refer to the attached Oracle reference (Oracle7® Server Distributed Systems, Vol. II: Replicated Data, Rel. 7.3, February 1996 Oracle®), on which the Examiner relies for answering the Applicant's argument, but does not cite for claim rejection.

At Pages 18-22, concerning claims 2-3, 5, 7-12, 19-22, 24, 14-17, 4 and 6, the Applicant argued that the Examiner failed to establish *prima facie* for combining the teachings from references to meet the three basic criteria for teaching or suggesting all the claim limitations.

As to the above argument d), the Examiner respectfully disagreed. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner maintains the

position as set forth in the Office Action for non-Final Rejection by combining Kodama and Nixon references to reject claims 2-3, 5, 7-12, 14-17, 19-22 and 24, and combining Kodama and Lisiecki references to reject claims 4 and 6.

As to dependent claims **2-12, 14-17, 19-22 and 24**, which directly or indirectly depend on claims 1, 13, 18 and 23, respectively, the Examiner applies the above stated arguments for the respective claim upon which they depend.

The newly added claims 25-46 have been addressed together with the respective method and system claims accordingly.

11. In light of the forgoing arguments, the 35 U.S.C 102 rejection for Claims **1, 13, 18, 23, 25, 37 and 42,** and 35 U.S.C. 103 rejection for claims 2-12, 14-17, 19-22, 24, 26-36, 38-41 and 43-46, is hereby sustained.

12. The prior art made of record

A. U.S. Patent No. 6,374,262

B. U.S. Patent No. 6,704,737

C. U.S. Publication 2002/0147774

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

D. U.S. Publication 2002/0073109

E. U.S. Publication 2003/0084361

F. U.S. Patent No. 6,202,085

U. Oracle7® Server Distributed Systems, Vol. II: Replicated Data, Rel. 7.3, February 1996 Oracle®

Conclusions

13. THIS ACTION IS MADE FINAL.

The Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is 571-272-3574 for faster service.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 571-272-4114. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday. If at tempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Kuen S. Lu
Patent Examiner
January 28, 20055

Luke Wassum
Primary Examiner
January 28, 2005